

Proposed Recovery Plan for Lake Ozette Sockeye Salmon



Port Angeles Public Meeting
May 15, 2008

Overview



Why are we here?

Overview



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Background on Lake Ozette Sockeye Salmon

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Recovery Plan Requirements

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Recovery Plan Requirements

Overview of Proposed Recovery Plan

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Overview of Proposed Recovery Plan

How You Can Comment?

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Recovery Plan Requirements

Overview of Proposed Recovery Plan

How You Can Comment?

Schedule for Adoption

Why are we here?

- Describe proposed recovery plan
 - Purpose
 - Components
- Answer questions
- Seek and consider all comments before finalizing



What is the Lake Ozette Sockeye Salmon Recovery Plan?

- Plan to recover Lake Ozette sockeye salmon
- Road map & guidance for voluntary actions
- Non-regulatory
- Endangered Species Act requires recovery plans for listed species
- Does not replace existing laws & authorities

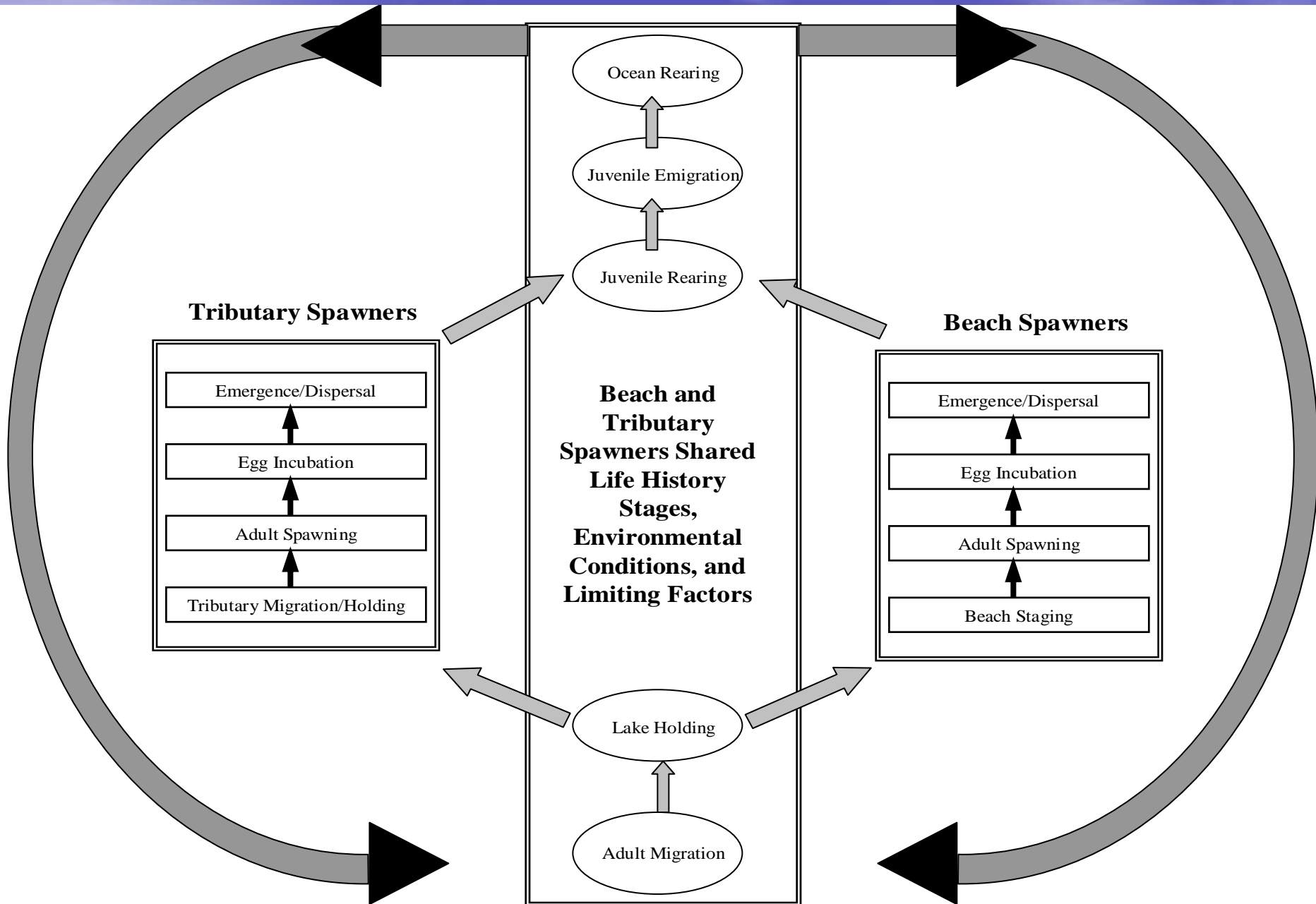
Lake Ozette Watershed



Lake Ozette Sockeye Salmon

- Historically, Ozette watershed had thriving populations of several salmon species
- Lake Ozette Sockeye salmon are one population, with five subpopulations defined by where they spawn (around lake or in tributaries)
- Plan describes life history of beach & tributary spawners

Lake Ozette Sockeye Salmon Life Histories



Lake Ozette Sockeye Salmon

- Historical abundance estimated at over 50,000 fish prior to the 1940s
- In 1990s declined to 580 fish (5-yr mean)
- Listed as threatened under Endangered Species Act in 1999

Lake Ozette Sockeye Salmon

- Poor status and listing due to:
 - Loss of spawning habitat
 - Predation
 - Past overexploitation
 - Poor ocean conditions
- Most recent 4-year average abundance (2000-2003) estimated just over 4,600 fish

Endangered Species Act

Established in 1973

Purpose

- Conserve the ecosystems upon which endangered & threatened species depend
- Provide a program to conserve endangered & threatened species
- Take steps to achieve treaties & conventions identified in the Act



Endangered Species Recovery

Goals

- Reduce or eliminate threats to listed animals & plants
- Restore self-sustaining wild populations
- Remove species from the list
- These goals can be met by developing & implementing a recovery plan



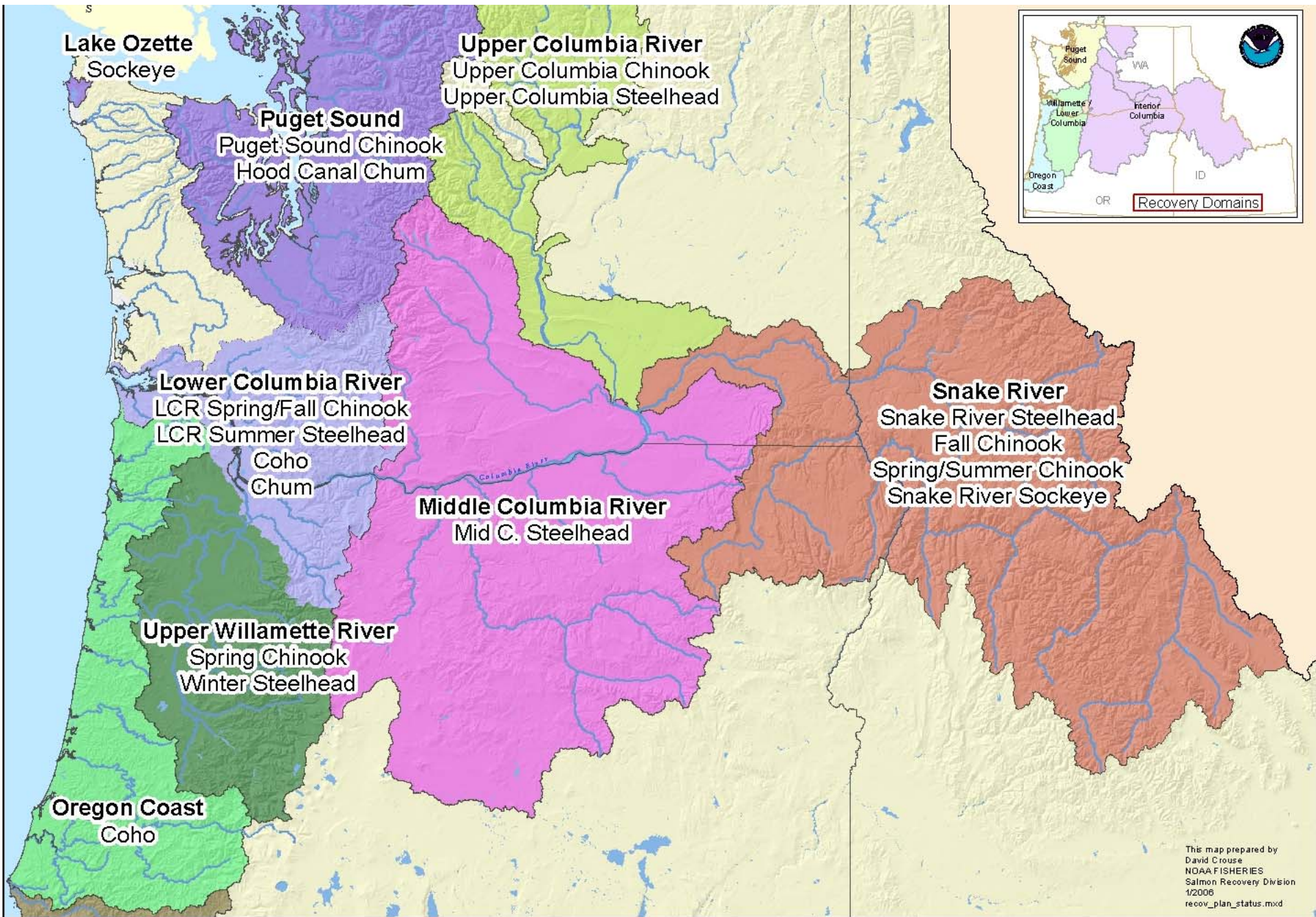
Recovery Planning

Recovery Plans must contain:

- 1) Objective, measurable goals for delisting
- 2) Comprehensive list of actions necessary to achieve delisting goals
- 3) Estimate of the cost & time required to carry out these actions



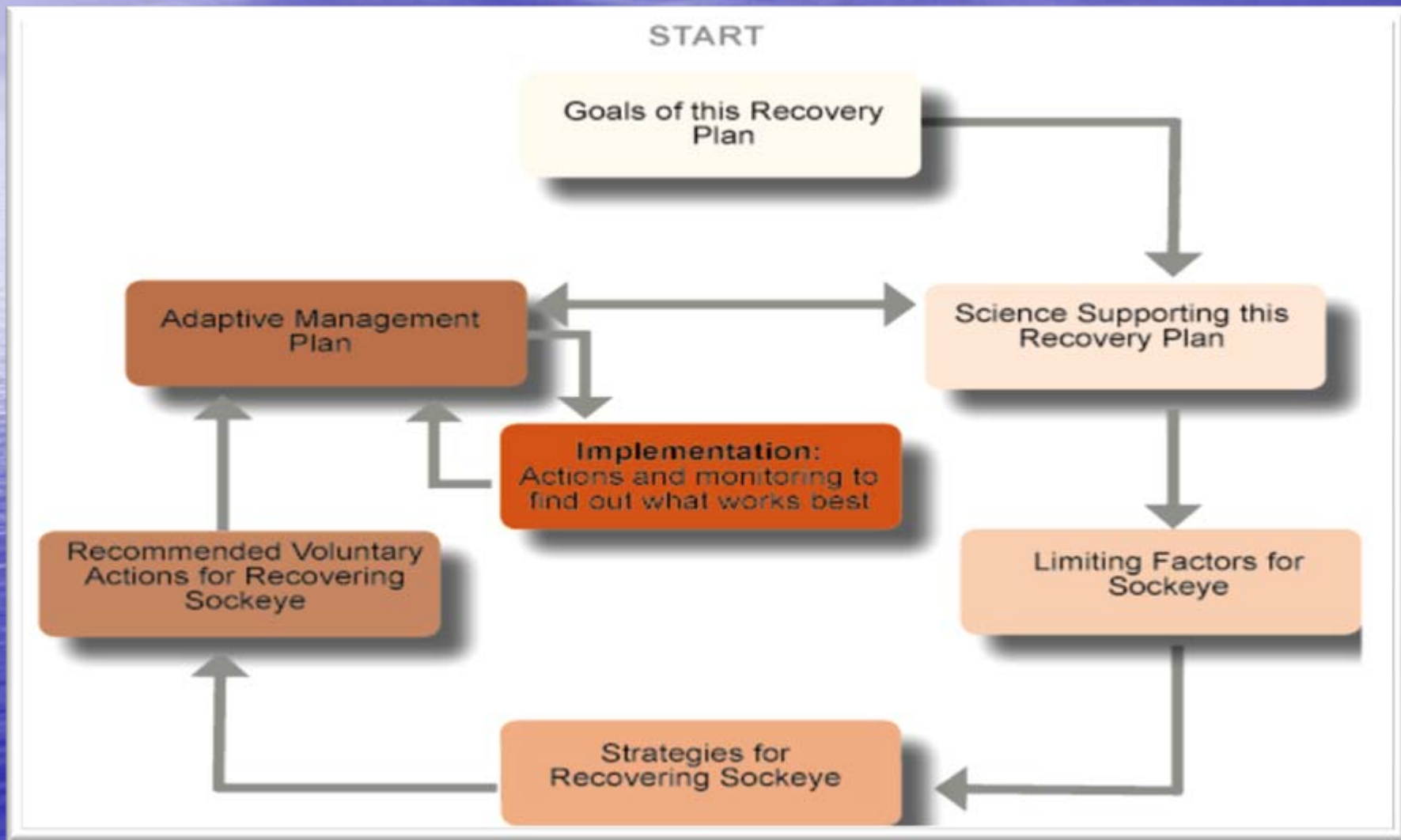
NOAA Fisheries ESA Recovery Domains in the Pacific Northwest



Recovery Plan was Developed...

- Collaboratively
 - Based on existing scientific information
 - Developed with broad base of stakeholders through the Lake Ozette Steering Committee
 - Considered the full life cycle of Sockeye
- Based on science developed by NOAA's Puget Sound Technical Recovery Team
- Realistic roadmap to recovery
- Seeks broad support for implementation

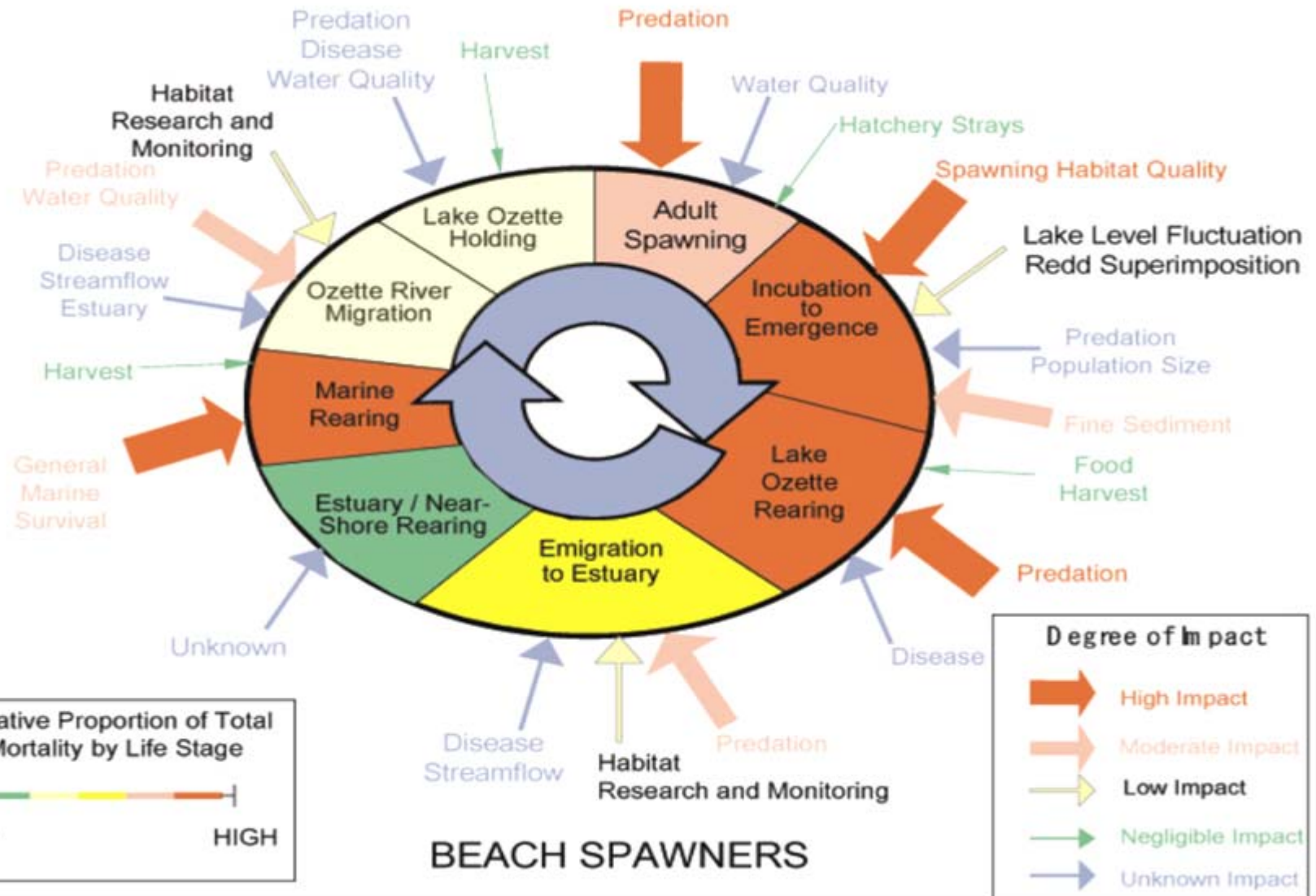
The Recovery Plan Process



Limiting Factors & Hypotheses

- Conditions in the environment that affect sockeye survival
- Related to predation, water temperature, stream channel conditions, or amount of water in the stream
- Hypothesis is a statement that can be proved or disproved by further inquiry
- Recovery plan will provide information needed to address hypotheses

Limiting Factors Examples



Threats

- Underlying causes of limiting factors
 - of human or natural origin
- May be due to human activities that have unintended impacts on fish
- Can be managed to address impact
- “Threats Criteria” relate to the factors that led to the species being listed

Examples of Threats

- Altered predator/prey relationships
- Channeling rivers/streams
- Historical removal of large wood from streams
- Road building & logging
- Agriculture
- Rural development

Goals & Desired Status

Endangered Species Act Delisting

- Biological Criteria
- Threats Criteria



Broad Goals & Desired Status

Broad Sense Recovery

Naturally spawning Lake Ozette sockeye population is sufficiently abundant, productive and diverse (in terms of life histories and geographic distribution) to provide significant ecological, cultural, social, and economic benefits.

Biological Criteria Used to Measure Current Status & Set Goals for Desired Status

- Productivity: number of adult spawner offspring produced per parent spawner
- Abundance: number of parent spawners
- Spatial Structure: geographic distribution of spawners
- Diversity: genetic, phenotypic & life history diversity

Five Endangered Species Act

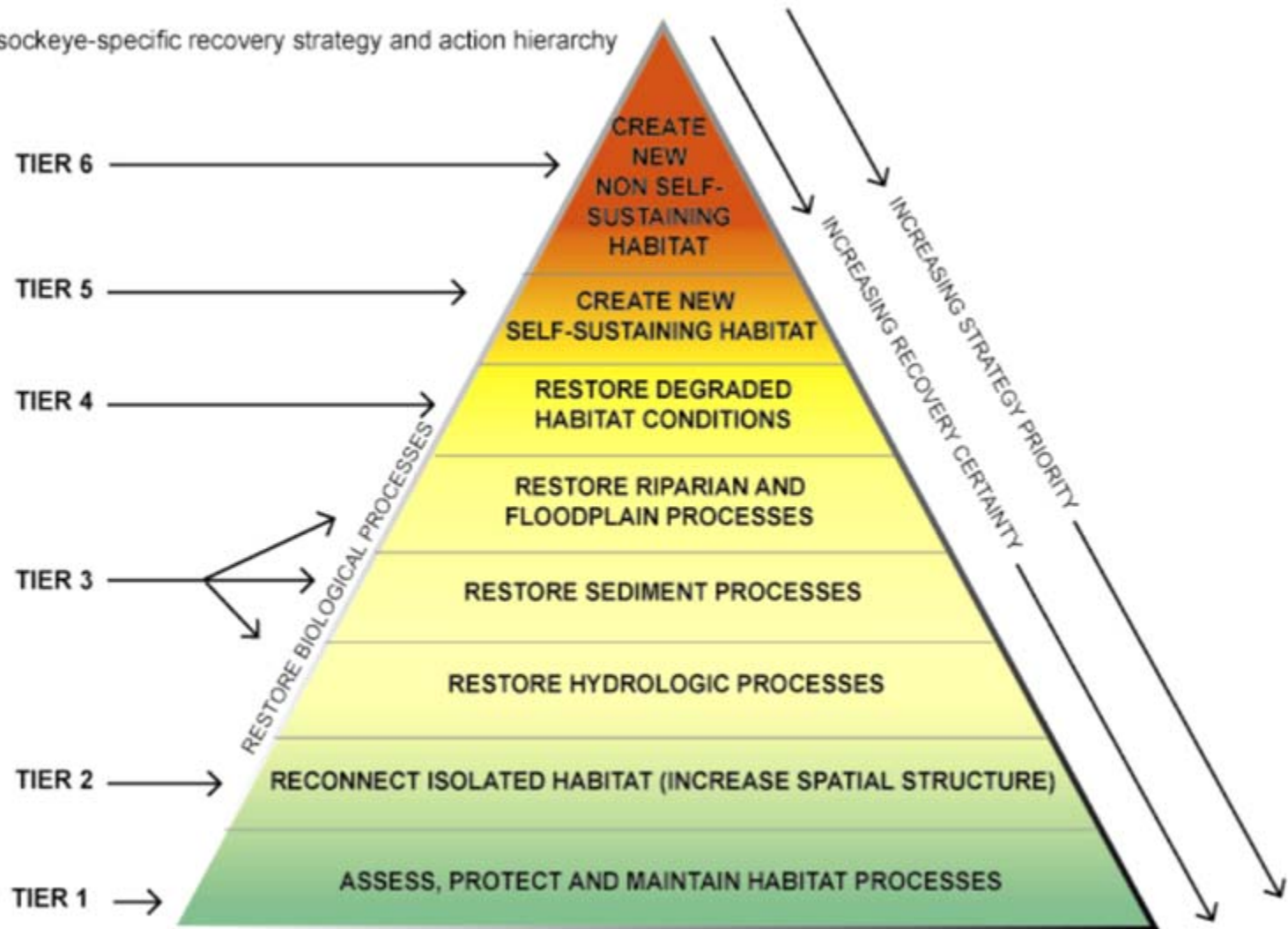
Threats Criteria:

Managing the Underlying Causes of Decline

- The present or threatened destruction, modification, or curtailment of habitat or range
- Over-utilization for commercial, recreational, scientific, or educational purposes
- Disease or predation
- Determining the adequacy of existing regulatory mechanisms
- Other natural or manmade factors affecting the species' continued existence

Recovery Strategy

Figure S-3: Ozette sockeye-specific recovery strategy and action hierarchy



Recovery Plan Actions

- Actions – address threats & limiting factors
- Actions are voluntary & require further implementation consideration
- Expected benefits if implemented

Fishery Harvest Strategies

- Protect listed population by eliminating and/or strictly limiting fishing related mortalities on Lake Ozette sockeye

Sample of Fishery Harvest Actions

- Maintain current closures or restrictions on Lake Ozette watershed fisheries affecting sockeye
- Continue timing, location, and method limits on current ocean fisheries & other salmon-directed fisheries, to ensure that the fisheries do not interfere with Lake Ozette sockeye salmon recovery

Strategies for Habitat

- Identify disconnected floodplain surfaces & add large wood to reconnect floodplains to channels to improve connectivity, sediment storage, and peak flow attenuation.



Sample of Habitat Actions

- Implement site-specific large wood placement projects in Umbrella Creek
- Implement broad-scale & site-specific riparian & floodplain restoration projects
- Monitor impacts of habitat actions & projects in watershed

Sample of Habitat Actions

Broad Scale Large Wood Placement Projects

- Lower Ozette River – prevent harbor seal migration
- Upper 1.3 miles of Ozette River
 - Study flood hazards & risks
 - Refine hydrologic model
 - Involve all landowners & agencies
 - Identify range of options

Predator Control Strategies

- Implement strategies & actions to increase egg-to-fry survival of beach & tributary spawners
- Restore natural predator-prey balance by eliminating non-native fish species
- Improve predator avoidance opportunities in the Ozette River

Sample of Predator Control Actions

- Work with NMFS, Olympic National Park & other agencies to analyze impacts of seals & sea lions on sockeye salmon & identify options to minimize impacts



Sample of Predator Control Actions

- Create an incentive program as appropriate with Olympic National Park regulations, to encourage or require lethal take of largemouth bass & other non-native fish species
- Modify sockeye adult enumeration techniques at the Ozette River weir to reduce any predation mortality on adult or juvenile sockeye



Recovery Strategies for Hatchery Actions

- Increase the abundance & spatial distribution of tributary spawning sockeye by implementing the Lake Ozette Hatchery & Genetic Management Plan

Sample of Hatchery Actions

- Continue to implement hatchery practices in the ESA-approved 2000 Lake Ozette Sockeye Salmon Hatchery & Genetic Management Plan
- Continue to use returning Umbrella Creek sockeye salmon adults as broodstock to sustain hatchery program

Other Plan Components

- Implementation Plan -identify actions & who will implement them

Other Plan Components

- Research, Monitoring & Adaptive Management
 - Lake Ozette sockeye status & trend monitoring
 - Implementation & compliance monitoring
 - Action effectiveness monitoring
 - Uncertainties research
 - Test limiting factors hypotheses

Cost & Time Estimates

- Characterized actions as
 - Baseline
 - Costs currently available
 - Costs to be developed
- Expected 10-year expenditure = \$ 46 million
- Total cost estimate = \$ 50 million (based on 50 years)
- Estimated time to recovery= check status after 10 years

What Does the Recovery Plan Mean to You?

- Sockeye recovery could result in future fishing, tourism & environmental opportunities
- Research projects could provide more information about causes of flooding in the Ozette watershed
- Recovery Plan offers a chance for funding research & habitat recovery projects
- Implementation will help other salmon species
- The plan is voluntary – your help is needed

Obtaining a Copy of the Proposed Recovery Plan & Draft Technical Reports

- 503-230-5418
- Sharon.houghton@noaa.gov
- www.nwr.noaa.gov/salmon-recovery-planning/ESA-Recovery-Plans/

Submit Your Comments Through June 23rd

- By mail:
Rosemary Furfey
NOAA Fisheries Service
1201 NE Lloyd Boulevard, Suite 1100
Portland, Oregon 97232
- By fax: 503-872-2737
- By email: OzettePlan.nwr@noaa.gov

Schedule for Adoption

- Comments accepted through June 23, 2008
- Comments evaluated & revise proposed Recovery Plan, Limiting Factors Analysis & Technical Recovery Team reports based on comments
- Develop response to comments
- Finalize & adopt Recovery Plan, together with Limiting Factors Analysis & Technical Recovery Team reports

Questions?

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